

ORIGINAL ARTICLE

Assessment of knowledge and opinion regarding breastfeeding practices during COVID-19 pandemic among paediatricians and obstetricians in India: an online survey

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ABSTRACT

Coronavirus disease 19 (COVID-19) is a novel coronavirus infection that has a wide spectrum of disease severity. The virus has not been known to pass through the placenta and has not been reported in the breastmilk of affected mothers. As the cases are still on a rise, it is expected that the number of pregnant females would also rise in the coming times. Among many queries during pregnancy, to breastfeed or not is an important question that needs to be answered. We conducted this survey to assess the knowledge regarding breastfeeding practices among Indian paediatricians and obstetricians during the COVID-19 pandemic. An online survey was conducted among paediatricians and obstetricians from all over India. Only 294 (54.1%) participants have adequate knowledge regarding breastfeeding recommendations. The gap in knowledge between paediatricians and obstetricians was found statistically significant with a *p* value of <0.01. Only 30% healthcare providers associated with perinatal care received

this information through a seminar. On the other hand, 15% of participants were not aware of any guidelines on breastfeeding during the COVID-19 pandemic. More rigorous dissemination of information on breastfeeding practices in COVID-19 case management needs to be adopted.

KEYWORDS

Breastfeeding; COVID-19; Knowledge; Practices; Online survey.

INTRODUCTION

The Coronavirus disease 19 (COVID-19) outbreak was first reported in December 2019 when a cluster of pneumonia cases was reported from Wuhan city in China. On January 30th, 2020, World Health Organization (WHO) declared the nCoV-2019 outbreak as a Public Health Emergency of International Concern. Later when the infection could not be controlled and crossed the boundaries of different countries, the disease was declared a pandemic on 11 March

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2020 [1]. In India, the first case was confirmed on 30 January 2020, in the Thrissur district of Kerala in a student who had returned home for a vacation from Wuhan University in China [2].

Transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, to neonates is thought to occur through respiratory droplets during the postnatal period when neonates are exposed to infected mothers, other caregivers, visitors, or healthcare personnel with COVID-19 infection. The virus has not been known to pass through the placenta and has not been reported in the breastmilk of affected mothers. Limited reports have raised concerns of a possible intrapartum or peripartum transmission, but the extent and clinical significance of vertical transmission by these routes is unclear [3]. Lackey et al. in a systematic review found a lack of rigorous evidence as to whether SARS-CoV-2 could be transmitted in milk and/or during breastfeeding [4]. In a similar study, Yang et al. [5] concluded that the current evidence indicated that SARS-CoV-2 viral nucleic acid had not been detected in breast milk.

Secretory IgA (sIgA) have been detected in the breastmilk of mothers with previous COVID-19 infection. However, the strength and durability of sIgA reactive to COVID-19 have not yet been determined. To date, it has not been known that the virus passes into milk, although research is ongoing. Following this, WHO has released guidelines regarding breastfeeding practices in suspected/confirmed COVID-19 mothers [6,7]. Consequently, Indian guidelines issued jointly by the Federation of Obstetric and Gynecological Societies of India (FOGSI), National Neonatology Forum of India (NNF), and Indian Academy of Paediatrics (IAP) have also been formed [8].

As the cases are still on a rise, it is expected that the number of pregnant females would also rise in the coming times. Pregnancy is itself a stressful situation and amidst this pandemic, the anxiety levels of parents especially mothers have risen exponentially. Among many queries that parents have during pregnancy, whether to breastfeed their baby or not is an important question that needs to be answered. As paediatricians and obstetricians,

we have a great responsibility towards our society to guide them adequately. Thus, we conducted this survey to assess knowledge among Indian paediatricians and obstetricians regarding breastfeeding in newborns during the COVID-19 pandemic. The objectives of the present study are:

1. To assess the level of awareness regarding breastfeeding during the COVID-19 pandemic amongst Indian paediatricians and obstetricians.
2. To get an opinion of different Indian doctors regarding breastfeeding during the COVID-19 pandemic.

MATERIALS AND METHODS

This was a cross-sectional, observational study conducted amongst paediatricians and obstetricians from different cities all over India. The study was conducted over a period of 15 days (May 30, 2020-June 14, 2020). The sample size was calculated by using the formula $(1.69)^2 \frac{p q}{L^2}$. P was kept 50%, $q = 1-p$, $L =$ absolute allowable error taken as 5%. The minimal sample size calculated was 384. Ethical clearance was obtained from Institutional Ethics Committee. A purposive sampling from our contact list was done, and 720 doctors were selected to include as participants. This study was based on WHO guidelines on breastfeeding during the COVID-19 pandemic [7]. A set of questions were made and divided into two segments, in the first segment, 10 questions were asked to assess the knowledge regarding breastfeeding during the COVID-19 pandemic when a mother is suspected or a confirmed case of COVID. The second segment was designed to get the opinion of Indian doctors irrespective of any guidelines.

A web link of an online questionnaire, prepared on Google forms, was shared among the participants through different platforms like WhatsApp, text messages and e-mails. After obtaining proper consent, responses were collected. The information provided by this survey was later analysed.

A grading system was developed to assess knowledge, based on the number of correct answers. Grading of knowledge/awareness was done as follows:

Inadequate knowledge: up to 4 correct answers.

Average knowledge: 5-7 correct answers.

Adequate knowledge: 8-10 correct answers.

The obtained data were organised in MS excel and results were obtained in percentage. Chi square test was conducted to interpret the categorical data.

RESULTS

The questionnaire was forwarded to 720 doctors all over India, out of which 543 responses were received (response rate 75.1%). Amongst these 462 (85.1%) paediatricians and 81 (14.9%) obstetricians participated in our study. Among all doctors, 18 (3.3%) were from paediatric subspecialties, 306 (56.4%) were qualified postgraduate doctors, 69 (12.7%) were diploma holders and 150 (27.6%) were pursuing residency in their respective discipline. Out of the 543 participants, 207 (38.1%) belonged to private medical colleges, 147 (27.1%) were from government institutes, 102 (18.8%) were from private sector hospitals and 78 (14.4%) doctors were private practitioners. Responses were received from 50 different cities all over India with almost 3/4th responses (74.6%) from Uttar Pradesh (Table 1).

Table 1. Demographic details of participants (n = 543).

	Frequency (%)
Discipline	
Paediatrics	462 (85.1)
Obstetrician	81 (14.9)
Highest qualification	
MD/MS	306 (56.4)
Diploma	69 (12.7)
Subspecialty	18 (03.3)
Resident doctor	150 (27.6)
Working place	
Government hospital/medical college	147 (27.1)
Private medical college	207 (38.1)
Private clinic/ hospital	180 (33.2)

Around 72% (n = 390) doctors responded that the COVID-19 virus cannot pass through breastmilk, 81 (14.9%) think that the COVID-19 virus can pass through breastmilk, while 72 (13.3%) were not sure about the transmission of COVID-19 through breastmilk. The majority of doctors (91.7%) were in support that the mother should breastfeed the baby in communities where COVID-19 is prevalent. Approximately half of the participants (48.1%) answered that the newborn baby should not be placed in direct contact with the mother who is a suspected or confirmed case of COVID-19 and should not breastfeed immediately. Most of the doctors (98.9%) responded that COVID-19 suspected/confirmed mothers should wear a medical mask while feeding, should sneeze or cough in a tissue and wash hands with soap and water before touching the baby. Around two-thirds (70.7%) recommended that the mother should wear homemade mask while feeding in case mother is COVID-19 confirmed/suspected and does not have a medical face mask. Regarding washing of breasts in COVID-19 suspected or confirmed mother, 51.5% answered that the mother should wash breast only if she has coughed or sneezed over the exposed breasts, while 38.1% believed that the mother should wash the breast before every feed. According to 84.5% doctors, expressed breast milk (EBM) should be an alternate to breastfeed in COVID-19 suspected/ confirmed mothers, 10% doctors were in favour of formula milk while 4.5% thought that donor human milk should be given as an alternative to breastfeed in COVID-19 suspected/ confirmed mothers. The majority (80.7%) of doctors thought that EBM is a safe alternative for newborns delivered to COVID-19 positive/suspected mothers while 14.4% doctors were not sure about the safety of expressed milk from confirmed/suspected COVID-19 mother. Only 49.7% doctors considered that wet nursing can be recommended if COVID-19 confirmed/suspected mother is not able to breastfeed or express milk. Almost one-third (27.6%) of doctors advised infant formula milk can be given as top-up to breastfeeds in COVID-19 confirmed/suspected mothers, if required (Table 2).

When participants were asked about their personal opinion regarding rate of risk of neonatal COVID-19 infection from infected mother during breastfeeding, 43.6% rated risk as minimum while 7.2% rated risk as maximum (Figure 1).

Table 2. Knowledge-related questions and responses.

Knowledge related questions	Correct response (%)
Can COVID-19 be passed through breastfeeding?	85.1
In communities where COVID-19 is prevalent, should mothers breastfeed?	91.7
Following delivery, should a baby still be immediately placed skin to skin and breastfed if mother is confirmed/suspected to have COVID-19?	47
What are the hygiene recommendations for a breastfeeding mother confirmed/suspected to have COVID-19?	98.9
If a mother confirmed/suspected to have Covid-19 does not have a medical face mask should she still breastfeed?	79.5
Is it necessary for a mother with confirmed/suspected Covid-19 to wash her breast before breastfeeding/expressing milk?	61.9
If a mother confirmed/suspected to have COVID-19 is not able to breastfeed what is the best way to feed her newborn/infant?	84.5
Is it safe to give expressed breastmilk from a mother confirmed/suspected to have COVID-19?	80.7
If a mother with confirmed/suspected COVID-19 is not able to breastfeed or to express breastmilk, can wet-nursing be recommended?	49.7
Is it advisable for a mother with confirmed/ suspected COVID-19 who is breastfeeding to give a 'top-up' with infant formula milk?	63

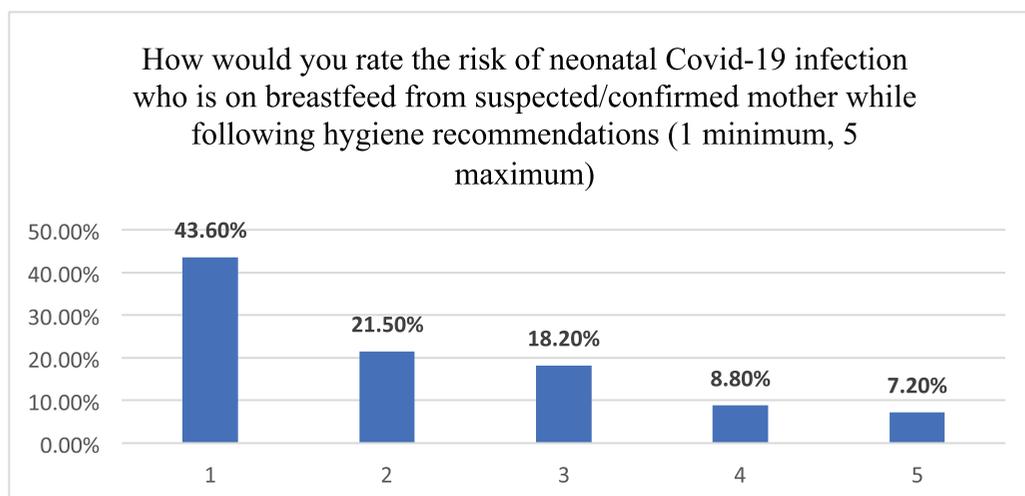


Figure 1. Opinion related question.

Almost three-fourths (74.6%) of paediatricians and obstetricians gave their opinion that in confirmed/suspected COVID-19 mothers they would advise EBM while 12.2% of doctors would advise infant formula milk as an alternative to breastfeeding when breastfeeding is not possible due to certain reasons (Figure 2).

The majority of doctors (38.9%) received information regarding breastfeeding during the COVID-19 pandemic from the internet, 30.6% attended a webinar/seminar on this topic, 15.6% received this information on a social media platform, while 15% were not aware of any guidelines or recommendations regarding breastfeeding during this pandemic (Figure 3).

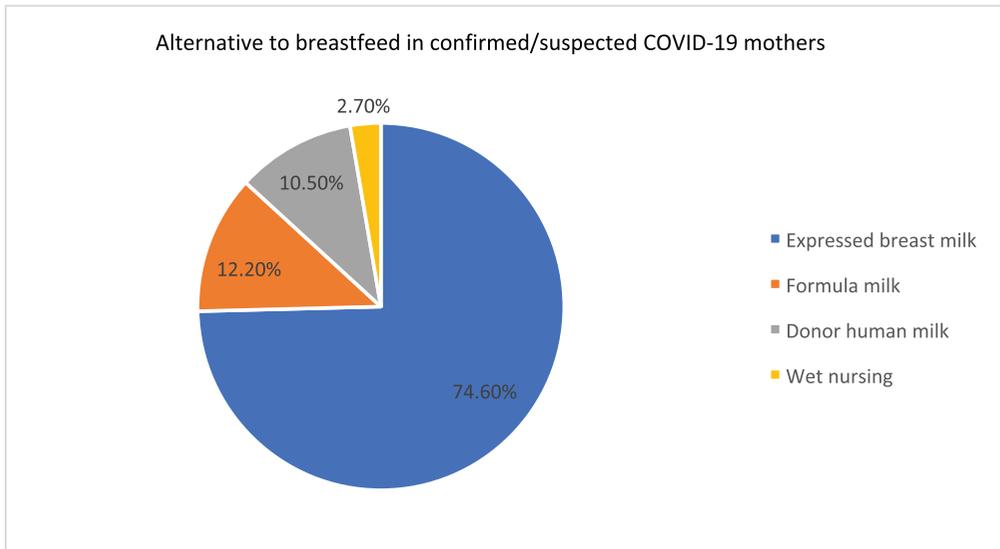


Figure 2. Opinion related question.

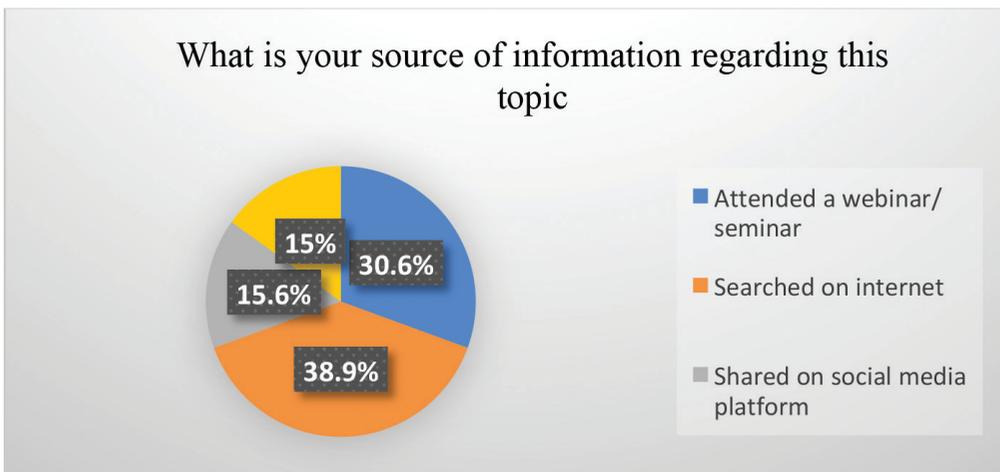


Figure 3. Source of information.

DISCUSSION

Breastmilk is the best source of nutrition for newborn babies. It strengthens the immune system by providing maternal antibodies and other immune factors through milk. Disruption of breastfeeding may leave negative impact on newborn’s short-term and long-term health. So, adequate knowledge of breastfeeding practices among paediatricians and obstetricians during the COVID-19 pandemic is crucial for newborn health.

There are primarily two schools of thought, one followed by Chinese and recommended by Centers for Disease Control and Prevention

(CDC). As per this, the baby needs to be separated and fed formula feed till the mother is COVID negative. Another view is of the European Union where bonding and rooming in with mother is recommended using a proper mask and cleaning the breast before feeding as breastmilk is shown to have antibodies to SARS-CoV-2.

The level of awareness was, as assessed by the number of correct answers, that 7.7% (42) participants had weak knowledge, 38.1% (207) had average knowledge while 54.1% (294) were having adequate knowledge regarding breastfeeding recommendations during the COVID-19 pandemic. Only 57% paediatricians were found to have the adequate level of knowledge regarding this topic.

Data show that even among paediatricians there is a huge lack of information regarding this topic. The gap in knowledge between paediatricians and obstetricians was found to be statistically significant with p value <0.01 .

In developing countries like India where paediatricians are far less than the required number and not all deliveries are attended by paediatrician, many a times obstetrician is the only available source of consultation regarding common newborn-related issues including breastfeeding practices. So, we need to strengthen knowledge regarding common neonatal issues, especially breastfeeding, among all paediatricians and obstetricians. We emphasise the involvement of obstetricians in awareness programs related to breastfeeding.

Only 30% of health care providers associated with perinatal care received this information from well-organised seminar/webinar by experts where further doubts could be cleared. In our view, a well-structured seminar/webinar by an expert in that area would be a better way to share such crucial information/guidelines where further doubts can be cleared. Hence, we conclude that a sensitisation program on breastfeeding in COVID-19 pandemic is needed on a large scale.

A more rigorous dissemination of information on breastfeeding practices in COVID-19 case management needs to be adopted. Most information has been about social distancing and personal protective equipment but not much is being propagated about breastfeeding aspect in SARS-CoV-2 positive mothers.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

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ETHICAL APPROVAL

Ethical clearance was taken from Institutional Ethics Committee and informed consent was obtained from all participants.

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